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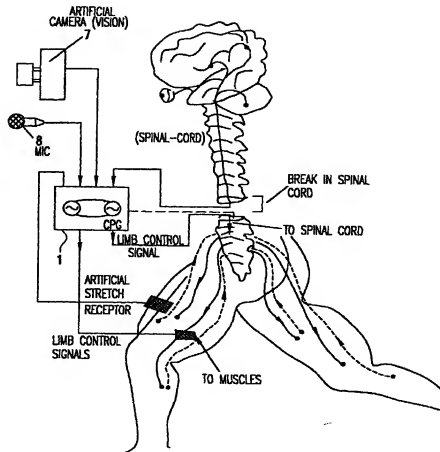
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- (71) Applicant (for all designated States except US): **JOHNS HOPKINS UNIVERSITY** [US/US]; Office of Technology Transfer, 708 N. Wyman Park Center, 3400 N. Charles Street, Baltimore, MD 21218-2696 (US).
- (72) Inventors; and
(75) Inventors/Applicants (for US only): **ETIENNE-CUMMINGS, Ralph** [US/US]; 2901 Boston Street, Apartment 405, Baltimore, MD 21224 (US). **LEWIS, Anthony, M.** [US/US]; 805 Buckthorn Circle, Mahomet, IL 61853 (US).
- (74) Agents: **WHITHAM, Michael, E.** et al.; McGuireWoods, LLP, 1750 Tysons Boulevard, Suite 1800, McLean, VA 22102 (US).
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(54) Title: BIOMORPHIC RHYTHMIC MOVEMENT CONTROLLER



(57) Abstract: An artificial Central Pattern Generator (CPG) based on the naturally-occurring central pattern generator locomotor controller for walking, running, swimming, and flying animals may be constructed to be self-adaptive, by providing for the artificial CPG, which may be a chip, to tune its behavior based on sensory feedback. It is believed that this is the first instance of an adaptive CPG chip. Such a sensory feedback-using system with an artificial CPG may be used in mechanical applications such as a running robotic leg, in walking, flying and swimming machines, and in miniature and larger robots, and also in biological systems, such as a surrogate neural system for patients with spinal damage.

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